426/520

Ritz THERMASCREW® HEAT EXCHANGERS

HOLLOW SCREW · JACKETED TROUGH

BULLETIN F9-1

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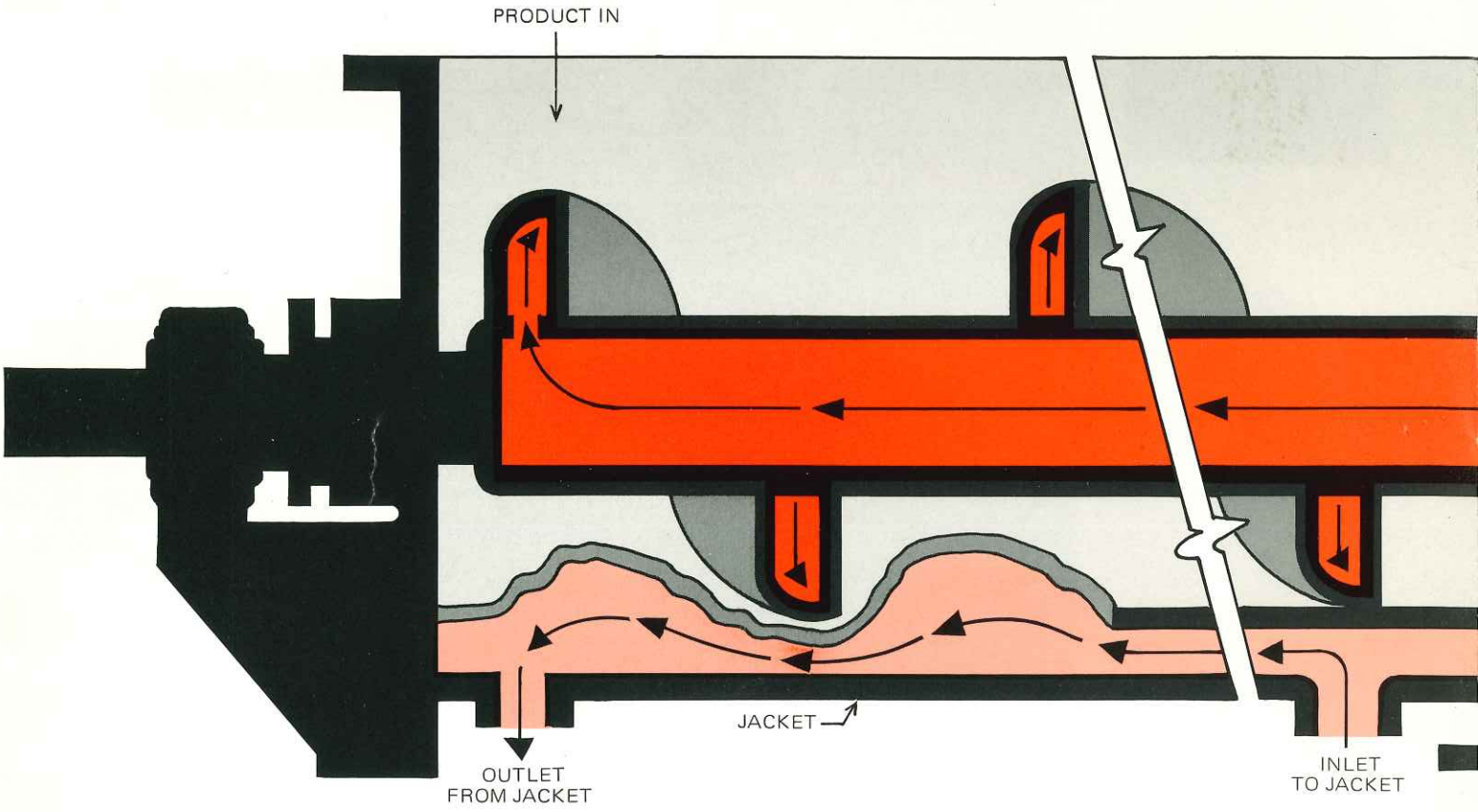


PRINCIPLES OF OPERATION

The Rietz Thermascrew is a true heat exchanger, adaptable to handling pastes and solids. Material to be processed enters through inlet opening and is conveyed by the rotation of the screw to the discharge point. Heat exchange is accomplished by the heat transfer surfaces of the hollow screw and shaft and of the jacket. Diagram shows the flow pattern of the heat exchange medium, starting from the rotary joint, moving through the siphon pipe into the hollow shaft, then back through the hollow screw and out the rotary joint. Also illustrated is the baffle arrangement in the jacket that insures positive flow of the heat exchange medium. Retention time of the product being processed is positively controlled by the speed of the screw. Short pitch screws and tumbling action insure uniform and efficient heat transfer.

FEATURES

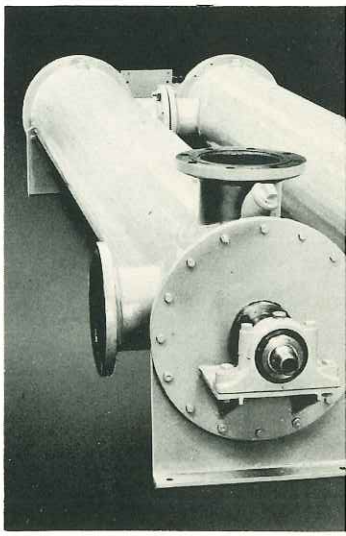
Rietz Thermascrews are designed to meet the specific require-

REDUCES TEMPERATURE 800° F

This Thermascrew, installed at Chas. Pfizer Co., Inc. in Adams, Massachusetts, reduces temperature of calcined lime from 1000°F to 200°F. It uses cooling water at approximately 60°F. Twin screw design provides two 24" diameter screws in a single 26' long trough. Heat transfer surface totals 700 sq. ft. The one unit conveys, elevates and cools, and, for this application, is equipped with dust-tight covers.

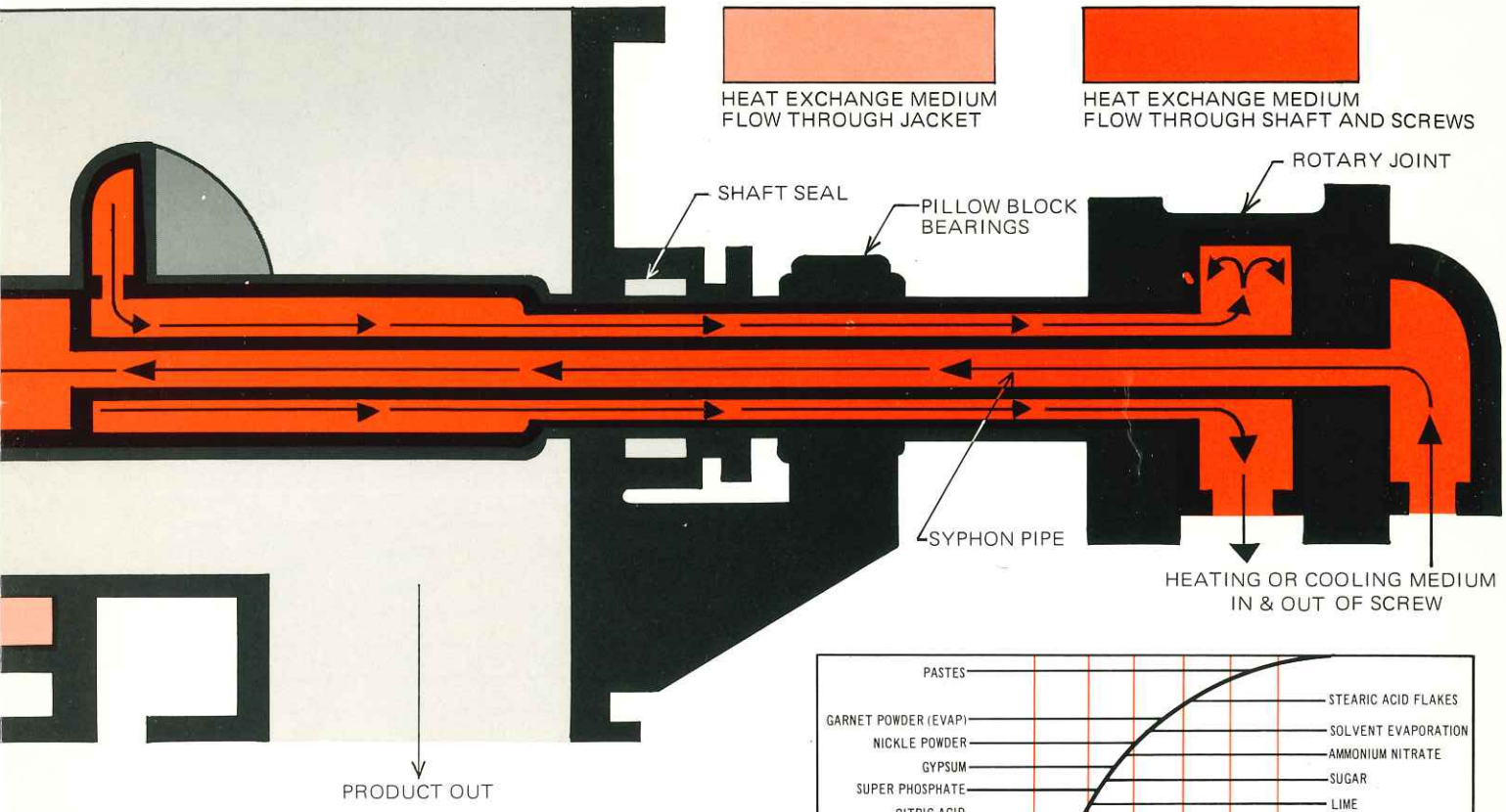
COMBINATION SCREW & RIBBON

This 8" diameter, 8' long Thermascrew is equipped with a special tumbling spiral. It functions on a continuous basis in the cooling of plastic pellets.

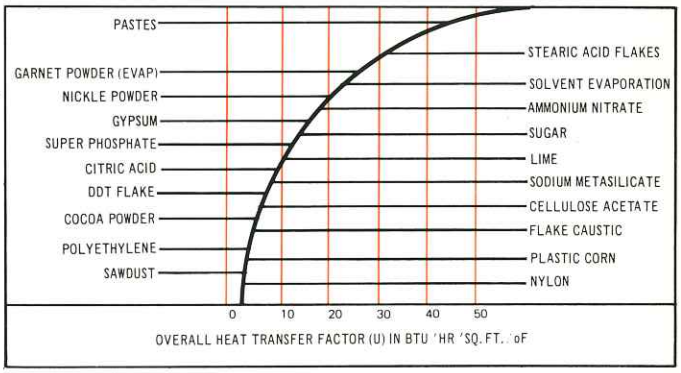


EXPANDABLE CAPACITY TH

These twin units are set in jacke 16" diameter hollow screw mou multiple-pass design permits th increased capacity as needed.

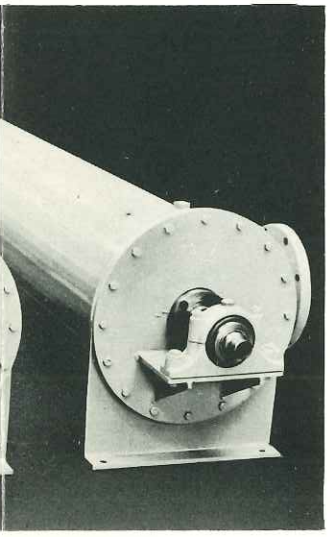


ments of each application. Cover, screw arrangement and trough design are carefully engineered to meet requirements for heating, cooling, evaporating, drying and calcining. Heat exchange media include high pressure steam, water, refrigerants and hot oils. Product area can be designed for pressure or vacuum. Units can be stacked for large capacities where floor space savings are important. Carbon or stainless steel and other materials of construction may be specified. ASME code construction is optional.

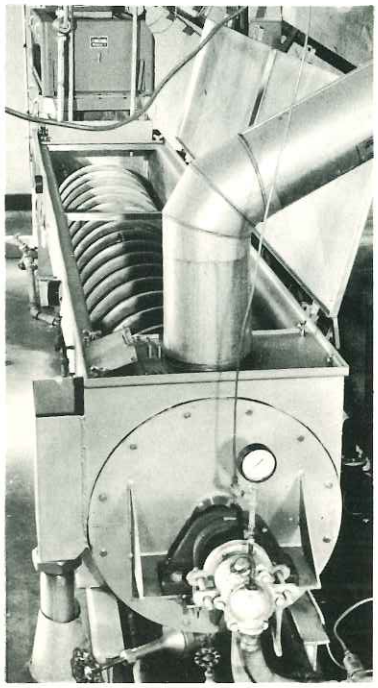


APPLICATIONS
The above chart covers some of the product applications of Rietz Thermascrews. Sanitary stainless steel construction permits the handling of food items such as baby foods, apple sauce, pineapple, pie fillings, diced peppers, etc.

FULL RANGE OF PROCESS INDUSTRIES — FPI



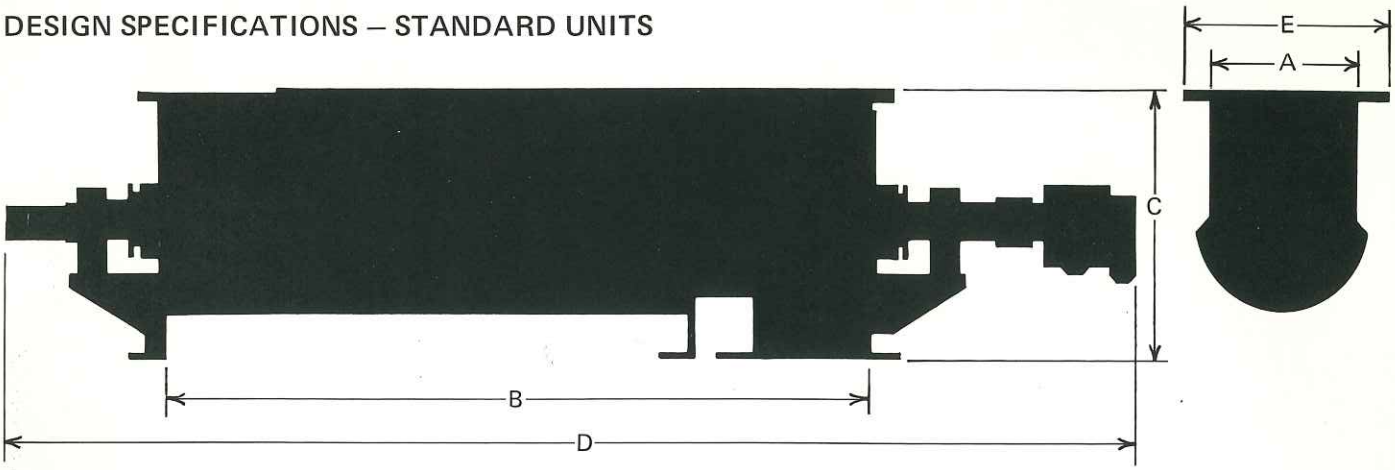
ERMASCREW
eted pipes. Each unit contains a unted in a 15' long body. The ne addition of more units for



HEATING AND MIXING
Left; this 24" diameter, 20' long Thermascrew heats cranberries from 70°F to 200°F at the rate of 18,000 lb/hr. A continuous flow of sugar syrup is metered proportionately to discharge a completely uniform mixture to the canning line. All product contact surfaces are sanitary stainless steel.

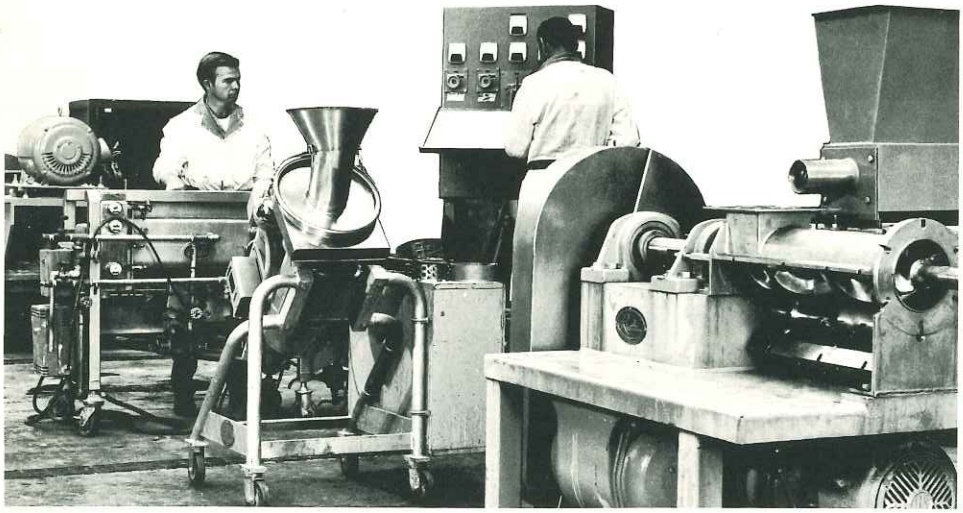
CIRCULAR TROUGH SANITARY DESIGN
Above; this stainless steel Thermascrew, used in the processing of diced pineapple, is designed with a unique cover that completes the circular form of the full trough. This arrangement insures positive flow characteristics essential in the processing of pineapple and comparable food products.

DESIGN SPECIFICATIONS – STANDARD UNITS



Model TJ Size	A	B	C	D	E	Flight Pitch	Total Heat Transfer Surface (sq. ft.)
8″ x 8′	8-3/8″	7′ – 11-5/8″	14″	10′ – 6″	11-3/8″	6″	27
8″ x 12′	8-3/8″	11′ – 11-5/8″	14″	14′ – 6″	11-3/8″	6″	43
12″ x 15′	12″	14′ – 11-5/8″	18″	18′ – 1″	16-1/2″	6″	93
16″ x 15′	16″	14′ – 11-5/8″	26″	18′ – 7″	20″	8″	120
16″ x 20′	16″	19′ – 11-5/8″	26″	23′ – 7″	20″	8″	163
24″ x 15′	24″	14′ – 11-5/8″	36″	19′ – 4″	29″	8″	215
24″ x 20′	24″	19′ – 11-5/8″	36″	24′ – 4″	29″	8″	280
24″ x 25′	24″	24′ – 11-5/8″	36″	29′ – 4″	29″	8″	345
Standard operating pressures 45 psi in jacket and 100 psi in screws. Higher pressures available when required.							

LAB SCALE PRODUCT TESTING Available at West Chester, Pennsylvania and Santa Rosa, California



To our customers and potential customers, Rietz offers the facilities of its product test laboratory for pilot scale testing of various Rietz equipment on customers' products. The lab is equipped to conduct tests for heat exchange, mixing, blending, size reduction, cooking, cooling, dewatering and drying. Plant conditions can be duplicated and results obtained that can be accurately projected to actual production. Inquiries about this service may be directed to any Rietz representative or to the Rietz home office in Santa Rosa, California.

BULLETIN F9-1

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Rietz

MANUFACTURING COMPANY
SANTA ROSA, CALIFORNIA 95402

Full information from these Rietz offices:
Santa Rosa, California (707) 545-2373
Chicago, Illinois (312) 764-4911
West Chester, Pennsylvania (215) 696-6313
Representatives in other principal cities.